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Laser Burnt-through Cone for the Control of Plasma Instabilities in Fast Ignition Thermonuclear Fusion Pellets V. ALEXANDER STEFAN, Institute for Advanced Physics Studies, Stefan University, La Jolla, CA 92037. — I propose a laser burnt-through cone for the suppression, (elimination), of plasma instabilities in fast ignition pellets.[1,2] Laser-REB, relativistic electron beam, hybrid[3] may prove to be, (if the burnt-through laser intensity is 20% of the total intensity), an effective tool for the control of variety of plasma instabilities, in particular for instabilities leading to the generation of colossal B-fields: Weibel instabilities and filamentation of the REB. In the latter case, (B-fields due to ∇n x ∇T mechanism), laser radiation, (ω_o, k_o), "breaks" the unstable waves, k $\sim$ k_0 (ω_{pe}/ω_o), through the Kolmogorov[4] cascades into shorter wavelengths, transferring the energy into a nonlinear Landau damping domain. The stabilization take place on the time scale $\sim$REB propagation length/ion acoustic velocity.

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